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INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
DRAFT NONRULE POLICY DOCUMENT

Title: **Draft Interim Guidance for the Reinforced Plastics Composites Fabricating Industry**
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Other Policies Repealed or Amended: **none**
Brief Description of Subject Matter: **Guidance on the Use of New Emission Factors for the Reinforced Plastic Composites Fabricating Industry**
Citations Affected: **P. L. 224-1999, Section 21 (House Enrolled Act 1919)**

This draft nonrule policy is available to the public to provide an opportunity for interested parties to review and comment in accordance with the House Enrolled Act (HEA) 1919. A final nonrule policy document will be published in the November 1, 1999 Indiana Register.

A nonrule policy document is intended solely as guidance and does not have the effect of law or represent formal Indiana Department of Environmental Management (IDEM) decisions or final actions. A nonrule policy document shall be used in conjunction with applicable laws. It does not replace applicable laws, and if it conflicts with these laws, the laws shall control. A revision to this nonrule policy document may be put into effect by IDEM thirty (30) days after the revised nonrule policy document is made available for public inspection and comment and has been presented to the air pollution control board. IDEM will submit revisions to the Indiana Register for publication.

The purpose of this nonrule policy is to describe the policies and procedures that IDEM will use to address the change in the emission factors for emissions of styrene from sources in the reinforced plastic composites fabricating industry. It has been developed to comply with HEA 1919, which was adopted by the General Assembly in 1999.

House Enrolled Act 1919 requires the IDEM to develop written policies and procedures by November 1, 1999, to address changes in estimated air pollution emissions from sources in the reinforced plastic composites fabricating industry that emit styrene and have been issued a construction permit or an operating permit before July 1, 1999. These policies and procedures will be published in the nonrule policy documents section of the Indiana Register. Before publication in the Indiana Register on November 1, 1999, the proposed nonrule policy document must be made available to the public, the air pollution control board, the environmental quality service council, and the clean manufacturing technology institute. In addition, the air pollution control board shall adopt rules by December 31, 2000, to establish appropriate standards for control of air pollution from new and existing sources in the reinforced plastics composites

fabricating industry. The air pollution control board shall consider all available information when adopting the rules, including available control technology, industry work practices, materials available to the industry, and recommendations by the clean manufacturing technology institute.

Background

Permitting decisions, including determining the level of permitting, control technology reviews, and emission limitations, depend on accurate estimates of emissions. Emission factors can be used to estimate emissions if site-specific emissions information is not available. Typically, the emission factors approved for use by IDEM are found in the United States Environmental Protection Agency (USEPA) document "Compilation of Air Pollutant Emission Factors," referred to as "AP-42." However, it has been determined that the information in AP-42 for the reinforced plastic composites fabricating industry is substantially incorrect.

In March 1998, USEPA removed from AP-42 the emission factors for certain open molding operations in the reinforced plastic composites fabricating industry: hand layup (manual application) and spray layup (mechanical application) of resin and gel coats, and filament winding. The emissions from these operations consist mainly of styrene, which is a volatile organic compound (VOCs contribute to ozone formation) and a hazardous air pollutant (HAP). USEPA removed these emission factors because information developed by the USEPA and industry indicated the AP-42 factors significantly underpredicted emissions. In fact, available information indicates that emissions are approximately two (2) times greater than previously estimated.

In June 1998, IDEM approved the use of new emission factors published by the Composites Fabricators Association in a report entitled "CFA Emission Models for the Reinforced Plastics Industries," dated February 28, 1998. These models are now referred to as the "Unified Emission Factors for Open Molding of Composites" ("CFA Factors", April 1999). The CFA Factors enable a facility to estimate emissions from use of conventional materials and methods of application as well as take into account emission reductions from pollution prevention techniques such as flowcoating, vapor suppressed resins, and low styrene and hazardous air pollutant (HAP) content resins and gel coats.

While use of the new emission factors produce emission estimates approximately double that of the previously accepted emission estimates, it is important to note that the actual emissions to the environment from the reinforced plastics composites fabricating industry have not increased. Rather, the new emission factors merely reflect more accurately the emissions the industry has been releasing from open molding operations.

Most sources affected by the emission factor change have already applied for a Title V operating permit. Issuance of the Title V permit involves review and incorporation of conditions developed through previous permitting decisions. As IDEM develops Title V permits, it cannot include conditions based on erroneous information. When it is determined that previous permitting decisions were based on erroneous information, it is incumbent on IDEM to make

necessary corrections. IDEM has the obligation and authority to reopen and revise permits pursuant to IC 13-15-7-1, IC 13-15-7-2, and 326 IAC 2-1.1-9. Both 326 IAC 2-1.1-9 and IC 13-15-7-1(4) and (5) provide authority to modify (or even revoke) permits if changes in circumstances relating to the permit require either a temporary or permanent reduction in the discharge of contaminants and if any other change relating to the use of a permit is not consistent with the purposes of IC 13 or the air rules. IC 13-15-7-2 provides authority for modifying Title V permits if the permit contains a material mistake or needs to be revised to assure compliance with applicable requirements.

There can be significant regulatory consequences associated with the increase in emission estimates resulting from the use of the new CFA Factors. These consequences include the need to evaluate for a source: (1) the validity of previous permitting decisions such as case-by-case control technology requirements or levels of permitting approval; (2) how to demonstrate compliance with previously established emission limitations; and (3) when to revise annual emission reporting.

This policy is intended to address these consequences for currently permitted sources and provide for a transition from the old emission factors to the new, pending the promulgation of the new rule, which will account for the new factors. The policy also addresses the use of the new emission factors in the permitting of new sources. The state rulemaking required by HEA 1919 will establish consistent emission standards for this industry.

Policy

I. Permitting new sources

Until USEPA formally revises Section 4.4 “Polyester Resin Plastic Products Fabrication” of AP-42, IDEM will use the CFA Factors to estimate styrene emissions for new sources of the following open molding operations: hand and spray layup of resin and gel coats, and filament winding. The AP-42 emission factors for all other listed reinforced plastic composites fabricating operations are still valid for use. Alternatively, a source may rely on the results of site-specific testing to determine the emission factor if the testing is performed in accordance with 326 IAC 3-6 and if IDEM determines that the site-specific test results are more representative than the CFA Factors. Nonrule policy document Air-014-NPD “Approval of Alternative Emission Factors” published in the Indiana Register on May 1, 1999 (22 IR 2706) sets forth procedures for establishing site-specific emission factors.

If emission estimates indicate that a new source is subject to the state new source air toxics rule (326 IAC 2-4.1-1), the state new facilities VOC rule (326 IAC 8-1-6) or the federal prevention of significant deterioration (PSD) program, the applicant will be required to determine and install the maximum achievable or best available control technologies (MACT or BACT) for the reinforced plastic composites fabricating industry, whichever is appropriate under the applicable permit.

II. Permitting Existing Sources

There are two categories of existing sources: those that have applied for Title V operating permits, and those not currently in the Title V permit program (i.e., exempt, registered, minor state operating permit (MSOP), or a federally enforceable state operating permit (FESOP)). The policy for both categories are addressed as follows.

A. Existing Sources (Title V)

If a source has applied for a Title V operating permit, IDEM will re-determine the source's actual emissions and potential to emit (PTE) using the CFA Factors as part of the application review. This analysis will be performed in close consultation with the source, and as noted previously, a source may rely on site-specific testing instead of the CFA Factors to determine actual emissions and PTE.

If a source has a previous emission limitation, depending on the results of the re-determination of actual emissions, the source may choose from three options:

1. Retain the existing emission limitation.

   A source that will not exceed its existing emission limitation, even using the new CFA Factors to estimate emissions, may retain its emission limit. No further requirements will be placed on the source, but the Title V permit will state that the CFA Factors are to be used to determine ongoing compliance. The source can use any combination of IDEM-approved emission reduction technologies to maintain compliance with its limit. IDEM-approved emission reduction technologies include, but are not limited to: low styrene resins and gelcoats, flowcoater application equipment, vapor suppression, and vacuum bagging. Additional emission reduction technologies may be submitted to IDEM for approval.

2. Retain the existing emission limitation and adopt a schedule to achieve compliance.

   At the time of application review, using the CFA Factors to calculate emissions, a source may be projected to exceed or may have already exceeded its existing emission limitation. A source out of compliance due solely to the emission factor change can choose to retain its emission limit and will be allowed twelve (12) months from the date of issuance of its Title V permit to achieve compliance. This compliance schedule will be stated in the new permit. IDEM may extend the compliance schedule to be consistent with deadlines established in the state rule or for other appropriate reasons. Again, the source can use any approved emission reduction technology to achieve compliance with its limit.

3. Request a new emission limitation.

   Under this option, the source's PTE will be re-evaluated using the CFA Factors, and the

recalculated PTE will be the basis for establishing a new emission limit.

Establishing a new emission limit could make 326 IAC 8-1-6 applicable for the first time. Establishing a new emission limit could also mean changing an emission limit previously established pursuant to 326 IAC 8-1-6. Either case is likely to require a new determination or re-determination of BACT.

326 IAC 8-1-6 requires that BACT determinations be performed at all times on a case-by-case basis subject to information specific to the application and other information available at the time the determination is made. Thus, if a new BACT determination or re-determination is required, IDEM will consider the circumstances presented by each permit in making the determination. As part of establishing a new limit, IDEM will establish an appropriate compliance schedule, if one is needed, generally not to exceed 12 months.

As of issuance of this nonrule policy, IDEM has made a number of BACT determinations pursuant to 326 IAC 8-1-6 for this industry that are likely to still be applicable. The BACT that has been determined in recent permit decisions to be reasonable and cost-effective is use of a flowcoater to apply resins coupled with the use of low styrene resins and gelcoats. This particular combination of techniques can reduce emissions up to fifty (50) percent from conventional materials and application methods.

For all three options, IDEM will coordinate needed modifications to existing construction permits with issuance of the Title V permit.

B. Existing Sources (Not Title V)

In general, if due to the new emission factors a source's recalculated PTE is greater than the applicability threshold of a new permit level, the source may have the same types of options described for Title V sources, i.e., to retain previous permitting conditions, or to apply for the more appropriate permit.

IDEM will evaluate the actual emissions of sources that are currently registered or have a MSOP or FESOP, and will work with those sources on an individual basis to identify the appropriate option from those listed above. However, there may be cases where because of the increase in emissions estimates a source becomes subject to new rules. In these cases the option to remain at the previous permitting level may not be available. For example, if a source has PTE or actual emissions at levels qualifying it as a major source subject to Title V permitting, it may not be possible to allow the source to remain permitted as a registered or state operating permit source. If a source must apply for a new permit, it will have twelve (12) months from the date of publication of this policy document, November 1, 1999, to submit an application.

Federal Jurisdiction

If a source's recalculated emissions level qualifies it for a federal new source review

(NSR) or prevention of significant deterioration (PSD) permit, it will come under federal permitting jurisdiction, and USEPA may not make available the option to remain at previous permitting levels. USEPA has a "once in, always in" policy for the PSD permit program, which specifies that once a source emits at levels that qualify for this type of permitting, it is subject to the PSD program. In the case of PSD permitting, if a BACT determination is required, it must be evaluated using information that is currently available.

Transition to State Rule

IDEM recognizes that the state rule required to be adopted by December 31, 2000 may impose different requirements on those sources that elect to have their permit revised under this policy. Therefore, for any source that accepted new control technology requirements based on the CFA Factors in permits issued prior to issuance of this policy, and for any source that adopts new control technology requirements in a permit pursuant to this policy, IDEM will advocate during the rulemaking process that such sources be grandfathered from additional control technology requirements that may be established subsequently in the state rule until such time that their permits are renewed.

It must be emphasized that such grandfathering, if established, can be available only for the state rule, not for the eventual federal air toxics rules being developed for this industry. IDEM does not have the authority to exempt or defer sources from compliance with a federal rule.

Emissions Reporting

State rule 326 IAC 2-6-4(4)(E) requires the use of AP-42 emission factors or site specific values other than those listed in AP-42, if the site specific values are accepted by IDEM and USEPA. IDEM and the public have an interest in obtaining the most accurate emissions information available. Therefore, all existing sources should use the "CFA Factors" (April 1999) for their 2000 Indiana Emissions Statements (for the 1999 reporting year). A source's Title V fees, if applicable, will be based on these numbers.

Emission factors from the CFA Factors should be used to estimate emissions for the 1999 Toxic Release Inventory (TRI), Form R submittal. USEPA requires use of "best available" information when quantifying emissions for TRI reporting and has recently announced that the CFA Factors should be used for the TRI this year. IDEM is also requesting that sources include voluntary information with the Form R to identify pollution prevention measures implemented such as flow coaters and low styrene content resins.

Emission estimating methods specified in a currently applicable permit should be used for quarterly compliance monitoring reports.

<u>Additional Information</u>

This nonrule policy document will expire upon the effective date of a new rule concerning styrene emissions from the reinforced plastic composites fabricating industry, LSA Notice 99-125

(APCB). The first notice of comment period for this rule was published in the July 1, 1999 Indiana Register (22 IR 3238).

If you have any questions concerning this policy or on styrene and the fiber reinforced plastics industry, please contact:

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Copies of this policy are available at the Office of Air Management, Indiana Department of Environmental Management, Indiana Government Center-North, Room N1001, 100 North Senate Avenue, Indianapolis, Indiana 46204.